

REMARKS

Claims 92-95, 97-168 and 170-239 are pending; claims 119-122, 157-159, 193-196 and 231-233 are withdrawn; claims 92-95, 97-103, 109-116, 118, 123-129, 138, 139, 148, 151-154, 160-168, 170-176, 184-190, 192, 197-203, 212, 213, 222, 225-228, 234-237 and 239 are rejected; and claims 104-108, 117, 130-137, 140-147, 149, 150-155, 156, 177-183, 191, 204-211, 214-221, 223, 224, 229, 230 and 238 are allowed in this application. Applicants have amended claims 138, 163 and 237, and cancelled claim 239.

Responsive to the objection to the drawings under 35 CFR 1.83(a) Applicants have cancelled claim 239, which is believed to be responsible for the objection to the drawings. Accordingly, Applicants respectfully request the withdrawing of the objection.

Responsive to the rejection of claim 239 under 35 U.S.C. § 112, first paragraph, Applicants have cancelled claim 239.

Responsive to the rejection of claims 163 and 164 under 35 U.S.C. § 102(b) as being anticipated by German Patent DE 19946972 (DE '972), Applicants have amended claim 163 and submit that claims 163 and 164 are now in condition for allowance.

DE '972 illustrates a pressure space through which a fiber web travels at least once. The pressure space is bounded by four rolls, each roll in compressive contact with two of the other three rolls with a fiber web being compressed between two members and traveling through the points of compressive interaction between the rolls (Figs. 1 and 2).

In contrast claim 163, as amended, recites in part:

the fiber web is dewatered in said second pressure field by the steps of:
bounding a pressure space with at least four rolls;
pressurizing said pressure space with a compressed gas;

(Emphasis added). Applicants submit that such an invention is neither taught, disclosed nor suggested by DE '972 or any of the other cited references, alone or in combination and includes distinct advantages thereover.

DE '972 includes a paper web passing between two rollers in compressive contact thereby entering a pressure space bounded by four rolls. To separate the rolls of DE '972 would destroy the pressure space defined thereby. The compressed gas of Applicant's invention would not be able to dewater the fiber web if applied to the pressure space of the rolls of DE '972, since the moisture in the fiber web would not be able to be displaced. Therefore, DE '972 and any of the other cited references, alone or in combination, fail to disclose, teach or suggest the fiber web is dewatered in said second pressure field by the steps of bounding a pressure space with at least four rolls and pressurizing the pressure space with a compressed gas, as recited in claim 163.

An advantage of Applicants' invention is that in pressurized boundary space is not completely defined by four rolls, thereby allowing the pressurizing step to be effective for the removal of moisture from the web. For the foregoing reasons, Applicants submit that claim 163, and claim 164 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 92-95, 97-103, 109, 110, 113-116, 123-129, 138, 139, 148, 154, 160-162, 165-168, 170-176, 184, 187-190, 192, 197-203, 212, 213, 222, 228 and 234-237 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,103,062 (Ampulski, et al.), Applicants have amended claim 138 and submit that claim 138 and claims 139, 148 and 154 depending therefrom are now in condition for allowance. Further, Applicants respectfully traverse the rejection of claims 92-95, 97-103, 109, 110, 113-116, 123-129, 160-162, 165-168,

170-176, 184, 187-190, 192, 197-203, 212, 213, 222, 228 and 234-237 and submit that these claims are in condition for allowance.

Ampulski, et al. discloses a method of wet pressing tissue paper (Figs. 1 and 5). Including transferring an embryonic web 120 to imprinting member 219 and deflecting a portion of the paper making fibers in web 120 into deflection conduit portion 230 by applying a differential fluid pressure to embryonic web 120. Embryonic web 120 can be vacuum transferred from forming member 11 to imprinting member 219 by a vacuum box 126. The pressure differential across embryonic web 120 provided by vacuum source 126 deflects the fibers into deflection conduit portion 230 and removes water from the web through deflection conduit portion 230 to raise the consistency of the web to between about 18% and about 30%. The pressure differential across embryonic web 120 can be between about 13.5 kPa and about 77.8 kPa. Upstream of compression net 300, a portion of intermediate web 120A is deflected into imprinting member 219. Felts 320 and 360 are relatively dry when felts 320 and 360 enter nip 300 in order to provide efficient drying of the web (column 10, lines 6-67). Press roll 362 can have a generally smooth surface or have a plurality of openings in flow communication with the source of vacuum for facilitating water removal from intermediate web 120A (column 12, lines 3-8). In Fig. 1, a first pressure field is created by vacuum 126 and a second pressure field is created by shoe press assembly 700.

In contrast claim 92 recites in part, “forming the fiber web on said imprinting band” (Emphasis added). Applicants submit that such an invention is neither taught, disclosed nor suggested by Ampulski et al. or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Ampulski et al. discloses a method of wet pressing tissue paper in which the embryonic web is transferred to an imprinting member. This transfer step clearly indicates that the web was not formed on the imprinting member but rather was transferred thereto. The technique of transferring the embryonic web is discussed as utilizing a vacuum to transform the embryonic web onto the imprinting member. There is a distinct difference between forming and imprinting a web. The web of Ampulski et al. is already formed before it is transferred to an imprinting member for imprinting. As can be seen in Fig. 5, of Ampulski et al. web 120 is already formed prior to undergoing an imprinting operation on imprinting member 219. As can be seen in Fig. 5 of Ampulski et al. web 120A is redistributed to form web 120B as a result of the imprinting operation. This is in contrast to the forming of the web on an imprinting band in which fibers are formed in a position and not redistributed by an subsequent imprinting operation. Therefore, Ampulski et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest the step of forming the fiber web on an imprinting band, as recited in claim 92.

An advantage of Applicants' invention is that the web is formed on the imprinting band, thereby allowing the forming of a three dimensional structure without redistributing the fibers and the strength is fixed by the drying process. For the foregoing reasons, Applicants submit that claim 92, and claims 93-95, 97-103, 109, 110, 113-116, 123-129 and 160-162 depending therefrom, are in condition for allowance, which is hereby respectfully requested.

In further contrast claim 138 recites in part:

pre-imprinting the fiber web at a dry content of less than 25% with an imprinting band using a first pressure field; and

pressing the fiber web onto said imprinting band using a second pressure field, ...

... using a clothing guided together with said imprinting band, with the fiber web interposed therebetween, about at least one suction roll.

(Emphasis added). Applicants submit that such an invention is neither taught, disclosed nor suggested by Ampulski et al. or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Ampulski et al. discloses a method of wet pressing tissue paper in which the embryonic web is transferred to an imprinting member. The technique of transferring the embryonic web is discussed as utilizing a vacuum to transform the embryonic web onto the imprinting member. The web of Ampulski et al. is already formed before it is transferred to an imprinting member for imprinting. As can be seen in Fig. 5, of Ampulski et al. web 120 is already formed prior to undergoing an imprinting operation on imprinting member 219. As can be seen in Fig. 5 of Ampulski et al. web 120A is redistributed to form web 120B as a result of the imprinting operation. This is in contrast to the pre-imprinting the web with a first pressure field and pressing the web into the imprinting band with a second pressure field. Therefore, Ampulski et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest the steps of pre-imprinting the fiber web at a dry content of less than 25% with an imprinting band using a first pressure field, pressing the fiber web onto the imprinting band using a second pressure field, and using a clothing guided together with the imprinting band, with the fiber web interposed therebetween, about at least one suction roll, as recited in claim 138.

An advantage of Applicants' invention is that the web is preimprinted using a first pressure field then dewatering and fixing the web with a second pressure field. For the foregoing reasons, Applicants submit that claim 138, and claims 139, 148 and 154 depending therefrom, are in condition for allowance, which is hereby respectfully requested.

In further contrast, claim 165, as amended, recites in part, "an imprinting band wherein the fiber web is formed thereon;" (Emphasis added). Applicants submit that such an invention is

neither taught, disclosed nor suggested by Ampulski et al. or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Ampulski et al. discloses a method of wet pressing tissue paper in which the embryonic web is transferred to an imprinting member. This transfer step clearly indicates that the web was not formed on the imprinting member but rather was transferred thereto. The technique of transferring the embryonic web is discussed as utilizing a vacuum to transform the embryonic web onto the imprinting member. There is a distinct difference between forming and imprinting a web. The web of Ampulski et al. is already formed before it is transferred to an imprinting member for imprinting. As can be seen in Fig. 5, of Ampulski et al. web 120 is already formed prior to undergoing an imprinting operation on imprinting member 219. As can be seen in Fig. 5 of Ampulski et al. web 120A is redistributed to form web 120B as a result of the imprinting operation. This is in contrast to the forming of the web on an imprinting band in which fibers are formed in a position and not redistributed by an subsequent imprinting operation. Therefore, Ampulski et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest an imprinting band wherein the fiber web is formed thereon, as recited in claim 165.

An advantage of Applicants' invention is that the web is formed on the imprinting band, thereby allowing the forming of a three dimensional structure without redistributing the fibers and the strength is fixed by the drying process. For the foregoing reasons, Applicants submit that claim 165, and claims 166-168, 170-176, 184, 187-190, 192, 197-203, 212, 213, 222, 228 and 234-236 depending therefrom, are in condition for allowance, which is hereby respectfully requested.

In still further contrast, claim 237, as amended, recites in part, “a plurality of rolls arranged in parallel co-acting with said plurality of membranes to bound a pressure space pressurized by a compressed gas” (Emphasis added). Applicants submit that such an invention is neither taught, disclosed nor suggested by Ampulski et al. or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Ampulski et al. discloses a method of wet pressing tissue paper in which the embryonic web is transferred to an imprinting member. This is in contrast to the co-acting of a plurality of membranes and a plurality of rolls to define a pressure space. Therefore, Ampulski et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest a plurality of rolls arranged in parallel co-acting with a plurality of membranes to bound a pressure space pressurized by a compressed gas, as recited in claim 237.

An advantage of Applicants' invention is that in pressurized boundary space is defined without the need for contact between the rolls. For the foregoing reasons, Applicants submit that claim 237 is now in condition for allowance, which is hereby respectfully requested.

Claims 111, 112, 165, 184, 185 and 186 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,090,241 (Trokhan, et al.). However, claims 111, 112 depend from claim 92, which is in condition for allowance for the reasons given above.

Accordingly, Applicants submit that claims 111 and 112 are in condition for allowance, which is hereby respectfully requested.

Responsive to the rejection of claims 165, and 184-186 as being anticipated by Trokhan, et al., Applicants respectfully traverse the rejection and submit that claims 165 and 184-186 are in condition for allowance.

Trokhan et al. disclose an ultrasonically assisted process for making differential density cellulosic structure containing fluid latent indigenous polymers including the step of providing a fibrous web 10 having a fluid latent indigenous polymer in water having a consistency of about 10% to about 70%, which indicates a water content from 90% to 30%. Fibrous web 10 may be made by any paper making process and may include a through-air drying process (column 6, lines 7 through column 7, line 5). Ultrasonic energy is applied to web 10 having a frequency higher than about 16,000 Hz with a preferred range of 16,000 Hz to about 100,000 Hz (column 9, lines 49-57).

In contrast claim 165, recites in part, “an imprinting band wherein the fiber web is formed thereon,” (Emphasis added). Applicants submit that such an invention is neither taught, disclosed nor suggested by Trokhan et al. or any of the other cited references, alone or in combination and includes distinct advantages thereover.

Trokhan et al. disclose an ultrasonically assisted process for making differential density cellulosic structure containing fluid latent indigenous polymers including the step of providing a fibrous web having a fluid latent indigenous polymer in water having a consistency of about 10% to about 70%. Ultrasonic energy is applied to the web in order to form the differential density structure in the web, rather than on an imprinting band as claimed by Applicants. Therefore, Trokhan et al. and any of the other cited references, alone or in combination, fail to disclose, teach or suggest an imprinting band wherein the fiber web is formed thereon, as recited in claim 165.

An advantage of Applicants' invention is that the web is formed on the imprinting band, thereby allowing the forming of a three dimensional surface as the structure and strength are fixed by the drying process. For the foregoing reasons, Applicants submit that claim 165, and claims

184-186 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Claims 151-153 and 225-227 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ampulski et al.. However, claims 151-153 depend from claim 138 and claims 225-227 depend from claim 165, and claims 138 and 165 are in condition for allowance for the reasons given above. Accordingly, Applicants submit that claims 151-153 and 225-227 are in condition for allowance, which is hereby respectfully requested.

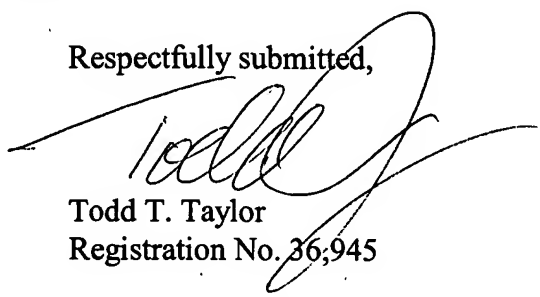
Applicants thank the Examiner for the indication that claims 104-108, 117, 130-137, 140-147, 149, 150-155, 156, 177-183, 191, 204-211, 214-221, 223, 224, 229, 230 and 238 are allowed.

For the foregoing reasons, Applicants submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Moreover, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,


Todd T. Taylor
Registration No. 36,945

Attorney for Applicant

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being transmitted via facsimile to the U.S. Patent and Trademark Office, on: August 15, 2005.

Todd T. Taylor, Reg. No. 36,945

Name of Registered Representative


Signature

August 15, 2005

Date

TTT6/dc

TAYLOR & AUST, P.C.
142 S. Main Street
P.O. Box 560
Avilla, IN 46710
Telephone: 260-897-3400
Facsimile: 260-897-9300